

## REMARKS

The disclosure stands objected to. Particularly, the Office Action indicates that a correction must be made on page 4, line 7. Applicants have corrected the disclosure as suggested in the Office Action, and have corrected other typographical or grammatical errors. Applicants respectfully submit that the stated objection has been overcome and request withdrawal of the objection.

Claims 1 through 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sasaki. Applicants respectfully traverse the rejection for at least the reason that Sasaki neither teaches nor suggests, among other things, the composition as defined in independent claims 1 and 19.

Regarding independent claims 1 and 19, the Office Action states, "Sasaki et al encompasses the required claimed Fe-Co-M-O composition of the thin film layer and the claimed recording head." The Office Action apparently suggests that the claimed Fe-Co-M-O composition of the thin film layer and the recording head is encompassed by Sasaki by considering the composition of  $(\text{Co}_{1-d}\text{Q}_d)_x\text{M}_y\text{O}_z\text{X}_w$  to be equivalent to the composition of  $(\text{Fe}_{1-a}\text{Co}_a)_x\text{M}_y\text{O}_z$  as defined in claims 1 and 19, where it is supposed that  $\text{Q}=\text{Fe}$  and  $w=\text{zero}$ . However, Applicants respectfully submit that the composition taught or suggested by Sasaki is significantly different from the composition defined in claim 1 and the recording head of claim 19, for at least the reasons shown by the following table comparing the two compositions.

<u>Material</u>	<u>Claims 1 – 20</u>	<u>Sasaki</u>
Fe(Q)	$1 - (0.05 \sim 0.65) = 0.95 \sim 0.35$	0 ~ 0.7 (preferably 0 ~ 0.3 (see Col. 3, lines 41-45))
Co	0.05 ~ 0.65	1 - (0 ~ 0.7) = 1 ~ 0.3 (preferably 1 ~ 0.7)
M	0.2 ~ 9at%	3 ~ 30at%
O	1 ~ 12at%	7~40at%
X	-	0 ~20at% (at 0)
M-O(-X)	$(0.2 \sim 9\text{at}\%) + (1 \sim 12\text{at}\%)$ $= 1.2\text{at}\% \sim 21\text{at}\% \text{-(max: } 15\text{at}\%)$	$(3 \sim 30\text{at}\%) + (7 \sim 40\text{at}\%)$ $= 10\text{at}\% \sim 70\text{at}\% \text{ (min: } 20\text{at}\%, \text{ max: } 60\text{at}\%)$
Fe(Q)-Co	Balance = 98.8at% ~ 85at%	Balance = 80at% ~ 40at%

Put another way, insofar as “1-a” of claims 1 and 19 (and their respective dependent claims) corresponds to “d” of Sasaki and “a” of claims 1 and 19 corresponds to “1-d” of Sasaki in their respective compositional formulas, the compositional relationship between Fe(Q) and Co is apparently reversed, as shown above. Particularly, when Fe(Q) is 0 ~ 0.3, which is preferable in Sasaki, the composition ratios of Fe(Q) and Co, respectively, have no apparent overlapping ranges between the composition of claims 1 and 19 and that of Sasaki.

Furthermore, the composition ratios of Fe(Q) – Co have no overlapping range at all between claims 1-20 and the teaching of Sasaki. Also, the composition ratios of M–O(-X) apparently have no overlapping ranges at all between claims 1-20 and the teaching of Sasaki. Applicants further submit that it would not be obvious to one skilled in the art to modify the composition of Sasaki

to teach the composition of claims 1 and 19.

For at least these reasons, Sasaki does not disclose or suggest at least the defined composition of independent claim 1 or the recording head of claim 19. Accordingly, Applicants respectfully submit that claims 1 and 19, and their respective dependent claims 2-18 and 20, are allowable over the references of record, including Sasaki. Applicants thus respectfully request reconsideration and withdrawal of the rejection.

Claims 1-20 stand further rejected under 35 U.S.C. § 103(a) as being unpatentable over Shigehiro in view of Sasaki. Applicants respectfully traverse the rejection, as neither Shigehiro nor Sasaki, alone or in combination, disclose or suggest at least the composition of the soft magnetic film defined in independent claim 1 or the magnetic recording head defined in independent claim 19.

Regarding Shigehiro, the Office Action appears to suggest that the reference discloses the claimed Fe-Co-M-O composition by considering the composition of " $\text{Co}_{100-x-y-z}\text{Fe}_x\text{M}_y\text{O}_z$ " of Shigehiro to be equivalent to the composition of " $(\text{Fe}_{1-a}\text{Co}_a)_x\text{M}_y\text{O}_z$ " as defined in claims 1 and 19. However, Applicants respectfully submit that the composition of Shigehiro is significantly different from the composition defined in claims 1 and 19 when compared specifically, as shown in the following table. As indicated in the table below, Fe and Co as defined in claims 1 and 19 are represented in at%.

<u>Material</u>	<u>Claims 1 – 20</u>	<u>Shigehiro</u>
Fe	$\{1 - (0.05 \sim 0.65)\} \times (98.8\text{at}\% \sim 85\text{at}\%)$ $= (0.95 \sim 0.35) \times (98.8\text{at}\% \sim 85\text{at}\%)$ $= 93.86\text{at}\% \sim 29.75\text{at}\%$	10at% ~ 50at% (1at% ~ 50at% as indicated in the Office Action)
M	0.2 ~ 9at%	2 ~ 10at%
O	1 ~ 12at%	6~25at% (6 ~20at% as indicated in the Office Action)
Fe-M-O	-	(10 ~ 50at%) + (2 ~ 10at%) + (6 ~25at%) = 18at% ~ 85at% (min: 15at%, max: 65at%)
Co	$(0.05 \sim 0.65) \times (98.8\text{at}\% \sim 85\text{at}\%)$ $= 4.25\text{at}\% \sim 64.22\text{at}\%$	Balance = 82at% ~ 35at% (98at% ~ 85at% as indicated in the Office Action)

That is, the compositional relationship between Fe and Co is reversed between the composition defined in claims 1-20 and that of Shigehiro, as seen in the above table. Particularly, among other differences, Fe does not exceed 50at% in Shigehiro, while in the composition of claims 1-20, Fe may exceed as high as 90at%. Accordingly, Shigehiro does not appear to disclose or suggest at least the composition defined in claims 1-20. Furthermore, Applicants respectfully submit that Shigehiro and Sasaki could not be combined to teach all of the features of claims 1-20, as no motivation has been provided for one skilled in the art to modify the composition of Shigehiro in light of the composition of Sasaki or vice versa to provide all of the features of claims 1-20.

For at least these reasons, Applicants respectfully submit that claims 1 and 19, and their respective dependent claims 2-18 and 20, are allowable over the references of record, including Shigehiro and Sasaki, alone or in combination. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

For at least the foregoing reasons, Applicants believe that this case is in condition for allowance, which is respectfully requested. The Examiner should call Applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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